

### REMARKS

The Office Action and the prior art relied upon have been carefully considered. Applicant wishes to thank Examiner Vincent for holding an extensive interview with the attorney of record on September 11, 2002. During the course of the interview, the amendment to claim 10 was discussed and the reasons for its distinctions over the prior art were explored. As a result of the interview, the Examiner indicated that he was favorably disposed toward the amendment, subject to an updated search.

The following remarks will summarize the points made by the attorney of record during the interview.

The prior art relied upon was previously cited and responded to by the attorney of record. These comments by applicant's representative are incorporated herein by reference and should be reviewed.

The present amendment to claim 10 stresses the fact that the system, as shown in Fig. 2 of the present application, employs a plurality of sensors for detecting different types of operating conditions in a furnace. In addition, the fuzzy logic controller means is defined in claim 10 as amended as running a control algorithm that is connected to a plurality of respected inputs to the different types of sensors, image means, predictive network, and operator set points, the control means generating a plurality of output signals for respective actuators. This amendment to independent claim 10 clarifies the fact that the fuzzy logic controller of the present invention receives different types of information, as supported in the specification on page 7, line 24 through page 8, line 26 and elsewhere throughout the specification.

This is in marked contrast to the primary reference to Aoki which is directed to a process involving a latency (dead time) and the deviation of a single parameter, e.g., temperature, is monitored. Thus, in column 13, lines 8-12, it is explained that temperature at the ceiling of the furnace was "used as a control parameter for manipulated input of oil supply rate." In column 13, lines 14-22, Aoki makes it clear that the processing is limited to the monitoring of thermal characteristics, exclusively. Accordingly, the primary reference totally failed to meet or anticipate the claimed invention as amended.

The secondary reference to Miller shows a video camera for monitoring an area of a glass furnace. However, as clearly indicated in the abstract, the output of the camera is used to generate a histogram and the areas defined by the histogram above and below threshold values provide a reasonable estimate of "the amount of batch and melt present in the viewed region." Therefore, this specific use of a video camera would have no application in Aoki.

The IEEE transaction Victor deal with the characterization and classification of a particular phenomena but the reference does not show or teach the use of data as an input to a fuzzy logic controller. For example, in column 2, second paragraph, victor restricts use of a vision system to process flame data and only to monitor the state of various furnace components. Accordingly, there is no likely combination of Victor and Miller, let alone the combination of the latter references with Aoki.

Although the Examiner may be technically correct in previous Office Actions when he asserts that multiple inputs are present in Aoki, it is clear that all of the inputs in Aoki deal with a single parameter which is totally different from that in the amended claim. Thus, there is no *prima facie* case of obviousness under 35 U.S.C. § 103.

During the course of the aforementioned interview, the Examiner appreciated these points and indicated his general favorability toward an allowance of the amended claims.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned **"Version with markings to show changes made."**

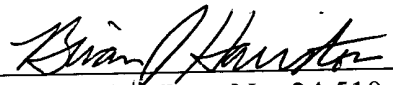
In view of the above, consideration and allowance are, therefore, respectfully solicited.

In the event the Examiner believes an interview might serve to advance the prosecution of this application in any way, the undersigned attorney is available at the telephone number noted below.

The Director is hereby authorized to charge any fees, or credit any overpayment, associated with this communication, including any extension fees, to CBLH Deposit Account No. 22-0185.

September 12, 2002

Respectfully submitted,

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**MARKINGS TO SHOW CHANGES MADE****IN THE CLAIMS:**

*Please amend claim 10 as follows:*

10. (Amended) A system for controlling the melting of a glass batch in a glass melting furnace and comprising:

a plurality of sensors for detecting different types of operating conditions in a furnace;

means for creating, and analyzing images taken inside a furnace in accordance with a predetermined mathematical model;

a predictive network which, depending on the state of the furnace and information regarding changes in production over time, defines various set point values assigned to furnace actuators;

means for storing operator set points corresponding to manual operation of furnace actuators under preselected conditions;

fuzzy logic controller means running a fuzzy logic control algorithm and connected at a plurality of respective inputs to the sensors, image means, predictive network, and operator set points storing means, the controller means generating a plurality of output signals for ~~the~~ respective actuators that will control melting in the furnace.